

On semibounded Toeplitz and Hankel operators

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Abstract : Necessary and sufficient conditions for Toeplitz and Hankel operators to be bounded are given by the classical theorems of Toeplitz and Nehari, respectively. Our goal is to make first steps in a study of unbounded operators of these classes. We use the Friedrichs construction of defining self-adjoint semibounded operators via corresponding quadratic forms. In the semibounded case, this construction yields most general conditions for formal symmetric operators to be defined as self-adjoint operators, but it works only if these quadratic forms are closable. So, the problem is to find necessary and sufficient conditions for Toeplitz and Hankel quadratic forms to be closable. Such conditions are found in the talk.